

## ATTACHMENT B Amendments to the Claims

Please cancel claims 7 and 9 without prejudice or disclaimer; and add new claims 27-35.

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A process for preparing a crosslinked collagenic material which is biocompatible and nontoxic and has a controlled *in vivo* rate of biodegradation, ~~characterized in that it comprises~~ said process comprising the step of:  
\_\_\_\_\_ subjecting a collagenic component substantially free of any complementary crosslinking agent, and preferably not crosslinked, in the wet state to irradiation by with beta-rays radiation, the collagenic component comprising collagen that has at least partially lost its helical structure by heating above 37°C,  
\_\_\_\_\_ the collagenic material obtained being sterile and biodegradable over a few days to several weeks.
2. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ wherein the collagenic compound has a moisture content of greater than 30%, ~~preferably greater than 40%.~~
3. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ wherein the collagenic component is in the form of a gel.

4. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~  
wherein the collagenic component is in the form of an aqueous solution.

5. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~  
wherein the collagenic component has a neutral pH, ~~preferably between 6.5 and 8.~~

6. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~  
wherein the concentration of the collagenic component (solids content) is a minimum of  
0.5% ~~and preferably greater than 2.5%.~~

7. (Canceled)

8. (Currently Amended) The process as claimed in claim ~~7~~, ~~characterized in that~~ 1,  
wherein the collagen that has at least partially lost its helical structure is formed from  
unhydrolyzed collagen consisting mostly of  $\alpha$  chains.

9. (Canceled)

10. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~  
wherein the collagenic component ~~consists of or~~ comprises oxidized collagen.

11. (Currently Amended) The process as claimed in claim 10, ~~characterized in that~~ wherein the oxidized collagen ~~consists of~~ comprises collagen modified by oxidative scission using periodic acid or one of its salts.

12. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ wherein the collagenic component comprises collagen functionalized at the level of the amino and/or carboxyl functional groups of the amino acids, said functionalization comprising succinylation, methylation, grafting of fatty acids or any other method to modify collagen.

13. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ wherein the collagenic component comprises a macromolecular hydrophilic additive.

14. (Currently Amended) The process as claimed in claim 13, ~~12~~, ~~characterized in that~~ wherein the macromolecular hydrophilic additive has a molecular weight greater than ~~3-000~~ 3,000 daltons.

15. (Currently Amended) The process as claimed in claim 13, ~~characterized in that~~ wherein the macromolecular hydrophilic additive is a hydrophilic polymer having a molecular weight of between ~~3-000~~ 3,000 and ~~20-000~~ 20,000 daltons.

16. (Currently Amended) The process as claimed in claim 13, ~~characterized in that~~ wherein the macromolecular hydrophilic additive is polyethylene glycol.

17. (Currently Amended) The process as claimed in claim 13, ~~characterized in that~~ wherein the macromolecular hydrophilic additive is chosen from polysaccharides, ~~especially comprising~~ starch, dextran and cellulose, ~~or and~~ mucopolysaccharides.

18. (Currently Amended) The process as claimed in claim 17, ~~characterized in that~~ wherein the macromolecular hydrophilic additive is a polysaccharide in oxidized form.

19. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ wherein the collagenic component is irradiated with a dose of 5 to 50 kGy.

20. (Currently Amended) The process as claimed in claim 19, ~~characterized in that~~ wherein the collagenic component is irradiated with a dose of 20 to 50 kGy, ~~preferably~~ 25 to 35 kGy.

21. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~ ~~the collagenic component is irradiated by beta rays,~~ wherein the resulting collagenic material ~~being highly~~ is crosslinked and biodegradable *in vivo* over several weeks following irradiation of the collagenic component by beta radiation.

22. (Currently Amended) The process as claimed in claim 1, ~~characterized in that~~  
further comprising the step of combining the collagenic component in the wet state ~~is~~  
~~combined with a network of~~ with collagen fibers preferably of helical structure, prior to its  
irradiation.

23. (Currently Amended) The process as claimed in claim 22, ~~characterized in that~~  
~~wherein the network of collagen fibers consists of~~ comprise a compress of compacted  
fibers, obtained from an acid solution of native collagen, said compress of compacted  
fibers formed by the method comprising the steps of:

\_\_\_\_\_ by treatment using treating native collagen with periodic acid or one of its salts,

\_\_\_\_\_ formation of forming collagen fibers and then from the periodic acid treated  
collagen.

\_\_\_\_\_ crosslinking the collagen fibers by neutralization,

\_\_\_\_\_ compressing the resulting crosslinked collagen fibers of helical structure ~~being~~  
~~compressed by applying pressure~~ thereby forming a compress,

\_\_\_\_\_ and in that depositing a solution of a collagenic component ~~is deposited~~ on said  
compress thereby forming an assembly, and

\_\_\_\_\_ then irradiating the assembly ~~is irradiated by~~ with beta-rays radiation.

24. (Currently Amended) A collagenic bicomposite which is biocompatible, nontoxic  
and sterile, has a controlled *in vivo* rate of biodegradation and is able to be applied by  
sutures or staples, ~~characterized in that it comprises~~ said collagenic bicomposite  
comprising only, or mainly, two layers a first and a second layer intimately associated

and crosslinked with interpenetration of the crosslinked networks, ~~one~~ the first of said layers being formed from a film based on a crosslinked collagenic component ~~and the other deposited on the second of said layers being formed~~ from a compacted compress formed from crosslinked collagen fibers rendered insoluble, ~~especially collagen fibers having a helical structure, prepared from collagen dissolved or dispersed in an aqueous solution.~~

25. (Currently Amended) The collagenic bicomposite as claimed in claim 24, characterized in that it wherein the collagenic bicomposite is crosslinked ~~by the process characterized in that~~ via combining the collagenic component in the wet state ~~is combined with a network of~~ with collagen fibers ~~preferably of helical structure,~~ prior to its irradiation.

26. (Currently Amended) The collagenic bicomposite as claimed in claim 24, characterized in that wherein the collagenic component comprises one of (a) collagen that has at least partially lost its helical structure, (b) oxidized collagen, or (c) a macromolecular hydrophilic additive.

27. (New) The process as claimed in claim 1, wherein the collagenic component is not crosslinked.

28. (New) The process as claimed in claim 1, wherein the collagenic compound has a moisture content of greater than 40%.

29. (New) The process as claimed in claim 1, wherein the collagenic compound has a pH comprised between 6.5 and 8, inclusive.

30. (New) The process as claimed in claim 1, wherein the concentration of the collagenic component (solid content) is greater than 2.5%.

31. (New) The process as claimed in claim 1, wherein the collagenic component comprises collagen that has at least partially lost its helical structure by heating between 40 and 50°C.

32. (New) The process as claimed in claim 19, wherein the collagenic component is irradiated with a dose of 25 to 35 kGy.

33. (New) The process as claimed in claim 1, further comprising the step of combining the collagenic component in the wet state with collagen fibers of helical structure prior to its irradiation.

34. (New) The collagenic bicomposite as claimed in claim 25, wherein the collagen fibers have a helical structure.

35. (New) The collagenic bicomposite as claimed in claim 24, wherein said crosslinked collagen fiber having a helical structure formed from collagen dissolved or dispersed in an aqueous solution.